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Title *Pattern Synthesis and Interference Suppression in Planar Phased Arrays*

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Abstract

Phased arrays utilize the correlations between the multiple radiating elements to achieve beam forming and beam steering through the adjustment of elemental phases. In this report, the pattern synthesis of linear and planar array with different amplitude distributions is carried out. The performance analysis of phased arrays for suppressing and nulling the jammers is also implemented. Codes are developed for quiescent and adapted patterns of the arrays in different configurations. This is done by using phase control technique, with the prime objective of optimization of adapted pattern in the presence of jammers. Effects of various parameters, viz. number of elements, spacing between the elements, number of interfering signals, power level of the jammers, jammer location with respect to the quiescent beam pattern of the array are analyzed. Computations are performed using improved LMS algorithm.